

Claims:

1. A self-bonded corrugated web comprising a primary pre-bonded web layer of thermoplastic fibers having a substantially uniform thickness in a z direction, the primary pre-bonded web arranged to form corrugations oriented in a corrugation pattern of parallel corrugation lines, the corrugated web includes a primary bonding pattern of heat- or melt-fusion bonded regions forming a plurality of primary bonding pattern lines, wherein the primary bonding pattern lines are arranged non-parallel to the corrugation lines, and wherein the primary bonding pattern lines intersect at least two of the corrugation lines for stabilizing the corrugations of the corrugated web.
2. A self bonded corrugated web according to claim 1, wherein each of the corrugation lines of the corrugation pattern is connected to at least one neighboring corrugation line by at least one primary bonding pattern line.
3. A self bonded corrugated web according to claim 1, wherein the primary bonding pattern comprises first and second primary bonding pattern lines, wherein the first primary bonding pattern lines are parallel to each other and the second primary bonding pattern lines are parallel to each other, and wherein the first primary bonding pattern lines are non-parallel to the second primary bonding pattern lines.
4. A self bonded corrugated web according to claim 3, wherein the first and second primary bonding pattern lines are intersecting lines circumscribing regions unbonded by the primary bonding pattern.
5. A self bonded corrugated web according to claim 4, wherein the regions unbonded by the primary pattern contain at least 3, preferably at least 5, and more preferably at least 9 corrugations.
6. A corrugated web according to claim 4, wherein regions unbonded by the primary pattern contain less than 20, preferably less than 15 corrugations.
7. A self bonded corrugated web according to claim 3, wherein the primary bonding pattern lines are continuous straight lines.

8. A self-bonded corrugated web according to claim 1, wherein the corrugation pattern lines are essentially parallel to the length dimension of the web.
9. A self bonded corrugated web according to claim 1, wherein the primary bonding pattern has a secondary bonding pattern comprising a plurality of bonding points.
10. A self bonded corrugated web according to claim 1, wherein the web exhibits a low pressure loft of at least $18 [\mu\text{m}/(\text{g}/\text{m}^2)]$.
11. A self bonded corrugated web according to claim 1, wherein the corrugated web exhibits a high pressure loft of at least $11 [\mu\text{m}/(\text{g}/\text{m}^2)]$.
12. A self bonded corrugated web according to claim 1, wherein the bonding is patterned embossing.
13. A self bonded corrugated web according to claim 1, wherein the corrugations form vale regions and crest regions, and wherein the heat- or melt-bonding is only performed in the vale regions.
14. A self bonded corrugated web according to claim 1, wherein the corrugations are deformed in the region of the primary bonding pattern so as to form overlaying layers of the primary web which are bonded to each other.
15. A method of shaping and bonding a primary web for forming a self-bonded corrugated web, the method comprising the steps of:
 - providing an essentially flat, fiber containing pre-bonded primary web,
 - shaping the web into corrugations thereby forming corrugation lines,
 - autogenously bonding fibers of the corrugated web by means of a primary bonding pattern of a plurality of primary bonding pattern lines, the plurality of primary bonding pattern lines being arranged non-parallel to the corrugation lines and intersecting at least two of the corrugation lines.

16. A method according to claim 15, wherein the corrugations form vale and crest regions and the bonding of the fibers of the web is essentially only applied to the vale regions.

17. A method according to claim 15, further comprising the step of deforming the corrugations in the region of the primary bonding pattern so as to form overlaying layers of the primary web, which are bonded to each other in the subsequent bonding step.

18. A method according to claim 17, wherein the bonding lines of the bonding pattern consists of a secondary bonding pattern comprising a plurality of linearly arranged bonding points.